

DANIL'CHENKO, A.N.

Akademicheskii SSSR. Institut metallofiziki. Nauchnyi obozrenie po problemam zhurnala

protsessov splavleniya. Izdatelstvo po nauchno-tekhnicheskym splavlenii, N. S. (Investigations of heat-treatment processes. Vol. 5) Moscow, 1970-1971. 2 vols. 2,000 copies printed.

Ed. of Publishing House: V.A. Eliseev; Tech. Ed.: I.P. Kavalkin; Editorial Board: Academician G.V. Kurdyumov, Academician S.V. Lebedev, Corresponding Member, USSR Academy of Sciences (herz. M.), I.A. Oding, I.S. Pavlov, and I.P. Smirnina, Candidate of Technical Sciences.

PURPOSE: This book is intended for metallurgical engineers, research workers in metallurgy, and may also be of interest to students of advanced courses in metallurgy.

CONTENTS: This book, consisting of a number of papers, deals with the properties of heat-resistant steels and alloys. Each of the papers is devoted to the study of the factors which affect the properties and behavior of steels. The effects of various elements such as Cr, Mo, and Ni on the heat-resistant properties of various alloys are studied. Definitions and nomenclature of certain metals as related to the thermal conditions are the subject of another study described. The problems of hydrogen embrittlement, diffusion and the deposition of cermet coatings on metal surfaces by means of electroplating are discussed. One paper describes the apparatus and methods used for creating microcrystals of metals. Boron-based metals are critically examined and evaluated. Results are given of studies of intermetallic bonds and the behavior of atoms in metals. Tests of turbine and compressor blades are described. No generalities are mentioned. References accompany each of the articles.

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DAN LIC HE AKA A.A.

Akademiya nauk SSSR. Institut nauchno-tehnicheskoy informatsii

Metallurgiya i metalloredmetiya: khimiya, nauchnoe issledovaniye i obrabotka titana (Metalurgy and Metalurgy of Titanium) Chelyabinsk: Vsesoyuznyi nauchno-tekhnicheskii i izdatel'stvo (Institute of Titanium) Moscow, Izdat. Akad. Nauk SSSR, 1979. 189 p. (Series: Itogi naukii tekhnicheskii nauk, 2.) Spravochnik. 2,700 copies printed.

Ser. II. V. Agurev, Corresponding Member, Academy of Sciences, USSR. Ed., of Publishing House: V. Schernikov, Tech. Ed.; Yu. V. Rybina.

This collection of articles is intended for metallurgists working with titanium and titanium alloys.

Coverage: The articles in this collection deal with the chemistry, metallurgy, and mechanics of titanium and titanium alloys. The articles are based on abstracts appearing in the Referativnyi zhurnal for obshchaya i spetsial'naia metallovedenie from 1953 to 1955. For the most part the articles are based on non-Soviet material. No references follow each article.

Editor-in-Chief: Ye. N. and D. A. Tsvetina. Properties of titanium and titanium alloys.

Shelest, A. Ye. and I. D. Reznikova. Heat Treatment of Titanium and Titanium Alloys. 163

This is a survey of the physical and mechanical properties of titanium and titanium alloys. Data are given on the effect of oxygen, nitrogen, hydrogen, and carbon on the mechanical properties of titanium.

Ogurcov, I. I. and I. D. Reznikova. Heat Treatment of Titanium and Titanium Alloys. 165

The authors discuss work hardening, annealing, grain refining, and other heat-treatment methods for titanium and titanium alloys. Also discussed are the effect of alloying elements on heat treating characteristics, mechanical properties after heat treating, chemical, structural, and mechanical changes at heat treating, and structural changes at annealing.

Arshamov, P. M. Thermoschemical Treatment (Diffusion Coating) of TiAl₃. 167

This article deals with the nitriding, boronizing, and siliconizing of titanium.

Shelest, A. Ye. and D. A. Tsvetina, and I. M. Parikh. Forming of Titanium and Titanium Alloys. 193

The authors discuss the special features of plastic deformation, general characteristics of cold and hot forming, individual forming operations, preparatory and finishing operations, organizational aspects of production, and storage and utilization of mass.

Reznikova, Ye. N., and N. A. Tsvetina. Recrystallization of titanium alloys.

Recrystallization of magnesium-reduced and iodide titanium is discussed in reference to its occurrence after rolling. Data are also given on forging, annealing, tempering, and hardening. Data are given on the effect of annealing temperature on the properties of titanium and the effect of alloying additions on the recrystallization temperature.

Bogorodskii, A. A. Deformation and Recrystallization Textures of Titanium and Titanium Alloys. 207

The article deals with textures assumed by titanium and titanium alloys after different forming operations.

Khokhlov, R. Kh. and O. V. Shaparov. Welding and Soldering of Titanium and Titanium Alloys. 212

Welding characteristics of titanium are discussed. Data are given on welding and soldering methods.

Makarov, Yu. M., and A. I. Bogorodskii. Methods for Chemical Analysis of Titanium and Titanium Alloys. 234

Data are furnished on qualitative, quantitative, and microchemical and chromatographic methods of analysis. Please note that the above-mentioned article is not present in this document.

Reznikova, K. P. Chemistry and Preparation of Magnesium-Titanium Alloys. 239

The article discusses the preparation of magnesium-titanium alloys and their properties.

SHELEST, A.Ye.; DANIL'CHENKO, A.N.; PAVLOV, I.M.

Drop forging and rolling of titanium and its alloys. Itogi nauki:
Tekh. nauki no.2:195-225 '59. (MIRA 12:9)
(Titanium--Metallography) (Forging) (Rolling (Metalwork))

BYCHKOVA, Z.S. (Moskva); VINOGRADOV, Yu.V (Moskva); DANIL'CHENKO, A.N.
(Moskva); DZUGUTOV, A.Ya. (Moskva); MEZIS, V.Ya. (Moskva); RASTEGAYEV,
M.V. (Moskva); STEPANOV, V.P. (Moskva).

Investigating the recrystallization of nickel-base heat-resistant
alloy castings. Izv. AN SSSR. Otd. tekhn. nauch. Met. i topl. no.5:
70-78 S-0 '60. (MIRA 10:11)
(Heat-resistant alloys--Metallography) (Crystallization)

DANIL'CHENKO, A.N.; RASTEGAYEV, M.V.; MEZIS, V.Ya.; DZUGUTOV, M.Ya.; VINOGRADOV,
Yu.V.

Effect of press forging on the durability and plasticity of alloys.
Issl. po zharopr. splav. 6:211-222 '60. (MIRA 13:9)
(Alloys—Metallography) (Deformations (Mechanics))

18.1285

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S/509/60/000/007/003/014

E193/E483

AUTHOR: Danil'chenko, A.N.

TITLE: Investigation of Plasticity of Certain Titanium Alloys

PERIODICAL: Akademiya nauk SSSR. Institut metallurgii. Trudy, No.7.
Moscow, 1960. pp.20-33. Metallurgiya metallovedeniye,
fiziko-khimicheskiy metody issledovaniya

TEXT. Since plastic working (forging, rolling, coining etc.) operations are the main production processes used in the fabrication of both semi-finished products and finished titanium and Ti-base alloys components, it is particularly necessary to build up a comprehensive body of experimental data on the plastic properties of these materials. Hence the present investigation whose object was to study the effect of temperature on plasticity of the ST1A (VT1D), MM11 (IMP1), MM12 (IMP2) and MM13 (IMP3) alloys. To obtain a complete picture of the plastic behaviour of these alloys the following properties were determined in the 20 to 1300°C range:
(1) maximum permanent set, ϵ_{max} , that can be attained by the application of dynamic compressive load without causing cracking; this was determined on cylindrical specimens (15 mm in diameter).
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Investigation of Plasticity ...

20 mm high), tested on a drop hammer with the striking velocity varying between 4.5 and 8 m/sec; (2) elongation (δ , %) and reduction of area (ψ , %) in static and dynamic tension, (3) impact strength (a_k kgm/cm²); (4) workability, determined by flat rolling tests. Tests were usually carried out on specimens prepared from hot-forged material. the VT1D alloy was tested also in the as-cast condition. Special precautions were taken to minimize the degree of oxidation during preheating. The results are reproduced graphically. Fig.1 shows the temperature dependence of ϵ_{max} of the IMP1 (curve 1) and IMP2 (curve 2) alloys. The temperature dependence of δ and ψ is shown in Fig.4, graphs a, b, and d relating, respectively, to alloys IMP1, IMP2 and IMP3. and graphs c and e to forged and cast alloy VT1D: graphs a and b show the results of the dynamic tests, graphs c, d and e relating to the static tests. The temperature dependence of a_k of these alloys is shown (in the same order) in Fig.5. Finally, the temperature-dependence of workability is shown in Fig.6 where the maximum reduction in thickness (ϵ_m , %) attainable in flat rolling without cracking is

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Investigation of Plasticity ...

plotted against temperature ($^{\circ}\text{C}$) for (a) alloy IMP1, (b) alloy IMP2 and (c) alloy VT1D in the as-cast (continuous curve) and hot-forged (broken curve) condition. In the next stage of the present investigation, the specific deformation energy a_d of the alloys studied was measured. This property is defined by $a_d = A_d / v_c$, where A_d is the total energy expended in fracturing a tensile test piece and v_c is the volume of the material actually displaced in the direction of the applied load; it is calculated from $v_c = v_0 \ln l_k/l_o$, where v_0 is the volume of the metal confined within the gauge length of the test piece and l_o and l_k denote the gauge length before and after testing, respectively. The results of these tests are reproduced in Fig. 7, where a_d (kgm/cm^2) is plotted against the test temperature ($^{\circ}\text{C}$), graphs a, b, c, d and e relating, respectively, to the following materials: IMP1, IMP2, hot-forged VT1D, IMP3, cast VT1D. (Curves marked ac and ad relate to static and dynamic tests, respectively.) Finally, the effect of preliminary working on the properties of alloy IMP1 was investigated. To this end, specimens of this alloy were hot-rolled at 800°C to attain various degrees of reduction in thickness ($\epsilon \%$) after which they

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Investigation of Plasticity ...

were subjected to static tensile tests at 20°C. The results are reproduced in Fig. 8, where ψ and δ (% left-hand scale) and U.T.S. (σ_b kg/mm², right-hand scale) are plotted against ϵ . It was concluded that hot-forged alloy VT1D has excellent plasticity throughout the investigated temperature range (20 to 1200°C). Its plasticity in the as-cast condition is still quite good in the β -phase range (i.e. above 900°C) but rather unstable at lower temperatures. Plasticity of alloys IMP1, IMP2 and IMP3 is about the same and lower than that of alloy VT1D. Acknowledgments are made to Corresponding Member of the AS USSR I.M. Pavlov who directed the present investigation and to Z.S. Bychkova who participated in the experimental work. There are 8 figures, 1 table and 16 Soviet references.

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Card 4/10

40980

S/659/62/009/000/014/030
1002/I203

AUTHORS Pavlov, I M , Danil'chenko, A N , Rastegayev, M V , Mezis, B Ya , Dzugutov M Ya
and Vinogradov, Yu V

TITLE The influence of plastic deformation during rolling on the time to failure, and on the mechanical properties of heat-resisting alloys

SOURCE Akademiya nauk SSSR Institut metallurgii Issledovaniya po zharoprochnym splavam v 9 1962 Materialy Nauchnoy sessii po zharoprochnym splavam (1961 g), 108-13

TEXT In an article published in vol. 6 of this series, the same authors (except Pavlov) concluded that the above influence should be investigated for every heat-resisting alloy individually. In the present article a non-defined alloy designated as "Alloy B" usually used for flat forgings was investigated. As a criterion of its heat resistance the time was taken to failure at 800°C, and its plasticity was evaluated from its shock resistance at 800°C, and at room temperature. It was concluded that the time to failure of this alloy and its mechanical properties can be increased by plastic deformation with subsequent heat treatment. This increase is probably due to the close-packed lattice of the acicular strengthening phase. There are 2 figures.

Card 1,1

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D217/D303

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AUTHORS: Rastegayev, M.V., Danil'chenko, A.N., Dzufutov, M.Ya.,
Bychkova, Z.S., Mezis, V.Ya., Vinogradov, Yu.V., and
Stepanov, V.P.

TITLE: Recrystallization of cast, deformation-resistant
alloys of the nichrome type

SOURCE: Akademiya nauk SSSR. Institut metallurgi Issledova-
niya po zharoprochnym splavam, v. 7, 1961, 47 - 57

TEXT: The work was carried out under the supervision of I.M. Pav-
lova. The recrystallization of nichrome-type alloys has been stu-
died very little, since their low plasticity in the cast state ma-
kes experimenting difficult. Therefore, a new method of hot working
had to be developed, rendering upsetting without rupturing possible.
This method, in which uniform upsetting is achieved, consists of
making shallow flat grooves (0.5 - 0.8 mm) with rims of 0.5 mm
width, in the end faces of a cylindrical specimens (30 mm long and
20 mm diameter). The grooves are filled with moistened asbestos or

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Recrystallization of cast, ...

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water glass, acting as lubricants during high temperature deformation under a drop hammer or press. This enables the contact friction to be decreased to a minimum and thereby permits deformation under conditions of linear compression. The results of investigations of recrystallization processes occurring in metallic alloys on hot working by pressure, are usually presented in the form of space diagrams of recrystallization of the second order within the coordinates "temperature, grain size and degree of deformation". However, these diagrams do not represent the entire recrystallization process which includes the old crystals to a certain extent, as well as any possible intercrystalline failures and their weldability. Therefore, the regions of full and incomplete recrystallization, as well as regions of failure and weldability between the crystals, should be indicated. A nichrome type alloy ingot, made under production conditions, was used in the investigation. Since the maximum transverse diameter of the dendritic crystals of the ingot attains 10 - 13 mm, the dimensions of the specimens were increased to 30 mm diameter and 40 mm length, as against 20 x 20 mm used in the uniform upsetting method. The dimensions of the end fu-

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Recrystallization of cast, ...

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ce grooves were increased proportionately to the new specimen dimensions. The specimen axes coincided with the longitudinal direction of the ingot. Three-dimensional recrystallization diagrams were constructed for cast nichrome type alloys by the "uniform" upsetting method, and also for cases in which the soaking time during annealing of the hot deformed metal had to be allowed for. The regions of complete recrystallization of a sound or defective structure, as well as regions of complete recrystallization of structures with welded-in defects were labelled. In all stages of hot deformation of nichrome-type alloys (in the cast or preliminarily recrystallized state) recrystallization (appearance and growth of new grains) was observed to take place. It was found that under certain conditions of hot working and appropriate cooling of forgings, a complex intercrystalline cohesion structure could be obtained in nichrome-type alloys which effectively increased their high temperature resistance. There are 6 figures, 4 tables and 12 Soviet-block references.

Card 3/3

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DANIL'CHENKO, A.N.; OSIPOV, V.G.

Plasticity and roll-ability of low-alloy steel at high temperatures.
Trudy Inst.met. no.9:78-81 '62. (MIA 16:5)
(Steel--Testing)

S/509/62/000/009/002/014
D207/2308

AUTHORS: Danil'chenko, A. N. and Osipov, V. I.

TITLE: Plasticity and reliability of low-alloy steel at high temperatures

SOURCE: Akademiya nauk SSSR. Institut metallofiziki. Trudy, no. 9, Moscow, 1962. Voprosy plasticheskoy reformatsii metalla, Ts-31

TEXT: Rolling tests were carried out on the low-alloy steel НЛ-2 (L8-2) because low-alloy steels are recommended by the new standard МСТ 5058-57 (GOST 5058-57) for structural purposes instead of carbon steels of the С7₅ (С73) type. The НЛ-2 steel corresponds to the XCM4 (15KhNi3B) chrome-nickel-copper steel in GOST 5058-57. Samples of НЛ-2 (45 x 100 x 300 or 45 x 50 x 300 mm in size) were deformed to various degrees (from 1 to 11%) by rolling between 400 mm diameter rolls at 1150 - 1200°C at the beginning of a pass and 700 - 900°C at the end of it. In some cases the initial temperature was 1000 - 1050°C. The following conclusions were drawn:

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Plasticity and reliability ...

The ML-2 steel suffers a high reduction in thickness (over 90% in one pass) without any signs of fracture. The high degrees of thickness reduction do not greatly affect the quality of the surface or the mechanical properties. Even at the highest attainable reductions the properties of the rolled steel satisfied the requirements of GOST 208-57. Some lateral spread was observed at the highest deformations. The results confirm that an increase in the degree of deformation can be obtained without increasing the strength of the rolls: it can be done by reducing the temperature range of a rolling pass and ending it relatively high temperatures. Measurements of plasticity under laboratory conditions were found to reflect correctly the behavior of the ML-2 steel during deformation at high temperatures. There are 2 figures and 1 table.

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D207/D308

121250

AUTHOR: Danil'chenko, A. N.

TITLE: Effect of niobium on the plasticity of a nickel-base alloy

SOURCE: Akademiya nauk SSSR. Institut metallofiziki. Trudy, no. 9, Moscow, 1962. Voprosy plasticheskoy deformatsii metalla, 32-36

REML: Three alloys were prepared: No. 1 - XhNiOT (KhNiOT) with the Ni/Cr ratio of 3.75 without niobium; no. 2 - with 1.1% Nb; no. 3 - with 1.5% Nb. Before testing they were subjected to mechanical treatment for removal of surface defects and they were then hot-forged above 1000°C into samples with square and circular cross-section. Shock extension tests were carried out on the alloys using a pendulum drop hammer of MK-30 (MK-30) type. These tests showed that the alloy no. 2 had the highest plasticity which peaked at 1030 - 1150°C. Rolling tests at 900 - 1250°C on wedge-shaped strips deformed between 250 mm diameter rolls showed reduction

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Effect of niobium ...

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from 10 mm (at the thicker end) to 1.5 - 2 mm. The rolling tests indicated that both no. 2 and no. 3 alloys were more plastic than no. 1. The plasticity determined by rolling was practically the same for the alloys nos. 2 and 3 between 900 and 1200°C: It corresponded to 50 - 80% reduction of the strip thickness. There are 3 figures.

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PAVLOV, I.M.; DANIL'CHENKO, A.N.; RASTEGAYEV, M.V.; MEZIS, V.Ya.;
DZUGUTOV, M.Ya.; VINOGRADOV, Yu.V.

Effect of plastic deformation during rolling on time length before
rupture and on the mechanical properties of heat-resistant alloys.
Issl. po zharopr. splav. 9:108-113 '62. (MIRA 16:6)
(Heat-resistant alloys--Testing)
(Deformations (Mechanics))

L 4-062-65 EWT(m)/EPF(n)-2/EWA(d)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(c) Pf-4/
Pl-4 IJP(c) MJW/JD/EN/JG
ACCESSION NR: AR5008958

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B

SOURCE: Ref. zh. Mashinostroitel'nyye materialy, konstruktsii i raschet
detaley mashin. Otd. vyp., Abs. 1.48.125

AUTHOR: Pavlov, I. M.; Danil'chenko, A. N.; Rastegayev, M. V.; Mezis, V. Ya.;
Napalkov, L. A.; Kuleshov, M. Ya.

TITLE: A study of plasticity and microstructure of VM-2 alloy when deformed
by upsetting

CITED SOURCE: Tr. Mosk. in-ta metallurgii, Mosk. energ. in-ta i Mosk. in-ta
stali i splavov vyp. 44, 1963, 256-263

TOPIC TAGS: molybdenum alloy, alloy plasticity, alloy microstructure, hot
upsetting, bulge test, optimum deformation temperature, VM-2 alloy

TRANSLATION: The report gives the results of a study of the plasticity and
microstructure of VM-2 molybdenum alloy after upsetting. The alloy's mechanical
properties at room temperature were: $\sigma_{0.2} = 27.2 - 28.0 \text{ kg/mm}^2$, $S_{cr} = 37.0 -$
 41.0 kg/mm^2 , $\delta = 6-10\%$, $\chi = 5-8.5\%$. Samples with diameter = 20 mm were bulge-
tested on a 450 kg-m vertical impact tester with a max. ram drop rate of 10 m/
sec. Billets were annealed at 1400C prior to shaping into cylindrical samples.
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It was found that commercial grades of VM-2 alloy exhibit adequate plasticity in a pressed and annealed state. The samples were upset along the axis of symmetry to levels of 70% without the development of cracks at 800-1400C. Cracks were also absent in diameter reduction (spread) to max. deformation of 55-58% at 800 or 900C. They occurred only when upsetting at 500-700C. A comparison of effective pressure values for open end upsetting at 900-1200C has shown that this characteristic reaches levels higher by 10-40% for VM-2 alloy than for steels Kh17N2 and 30KhGSA, other conditions being equal. Deformation temperatures of 1200 to 900C are recommended in relation to alloy VM-2. Bibl. with 3 titles; 4 illustrations. G. Mekhed

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Card 2/2

1 9961-65 EWT(a)/T/EMP(b) ASD(n)-3 JD/MLK

S/0000/64/000/000/0336/0341

ACCESSION NR: AT4046865

AUTHORS: Pavlov, I.M. (Corresponding member AN SSSR); Bastegeyev, M.V.; Danil'chikov, A.N.; Zharov, V.M.; Falaleeva, Z.S.; Merig, V.Ya.; Dzugutov, N.Ya.; Vinogradov, Yu.

TITLE: Effect of primary thermoplastic treatment on the properties of a heat-resistant alloy 6

SOURCE: AN SSSR. Nauchnyy sovet po problemam zhuroprochnykh splavov. Issledovaniya stalej i splavov (Studies on steels and alloys). Moscow, Izd-vo Nauka, 1964, 336-341.

TOPIC TAGS: thermoplastic treatment, heat resistant steel, steel upsetting, steel microsection, heat resistant alloy, strain hardening, impact toughness, stress rupture strength

ABSTRACT: Lately, many articles have been published on plastic deformation under pressure combined with thermal treatment to obtain metals of high strength. In almost all publications, the tested metal had previously undergone treatment under pressure. In the opinion of the authors of the present paper, special attention should be paid to the initial thermoplastic treatment. If the required properties are reached at this time, further treatment is unnecessary. Previously, the authors of this article investigated cast heat-resistant alloy 8 from an arc

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furnace by upsetting, thus obtaining various structural densities and grain boundaries affecting the heat resistance of the steel. In the given paper, heat-resistant alloy B was obtained by electric slag smelting. Thus, the initial cast structure was much better than the one described in the previous paper. The B alloy is complex and has a narrow interval for thermal treatment under pressure. The ingot (diam. 150 mm, length 600 mm) was cut into three equal parts of 150x200 mm. The parts were upset as shown in Figs. 1-3 of the Enclosure. The first two parts underwent the same degree of deformation, namely 0.844. The final contact coefficient (ratio of cylinder diameter to height) at the end of compression was 17.1. For the third part, the degree of deformation was 0.85 and the final contact coefficient was 12.9. Microsections showed that all three parts had a similar dense structure. Further, all three parts were cut into 20x20x70 mm samples for measurement of the yield point and strength. The third part had the highest values, while part two had the lowest. The second part had the highest impact toughness, while part 3 had the lowest. The stress-rupture strength after 100 hours was 14 kg/mm² for part 1, 16 kg/mm² for part 2 and 20 kg/mm² for part 3, which was verified by microstructural analysis; before 30 hours, the stress-rupture strength of part 1 was higher than that of part 2. It is noted in conclusion that thermoplastic treatment leads to high quality metals and alloys. The use of electric slag smelting improves the metal structure. Improvement of mechanical

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properties depends to a high degree on the correct choice of deformation procedure which still requires further investigation. Orig. art. has 5 figures, 1 table and 5 formulas.

ASSOCIATION: none

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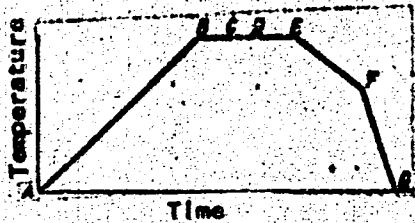


Fig. 1. Diagram of upsetting of part 1 of alloy B: AB-heating in furnace; BC-heating at given temperature; CD-upsetting in press; DE-heating in furnace; EF-slow cooling in glass wool; FG-air cooling.

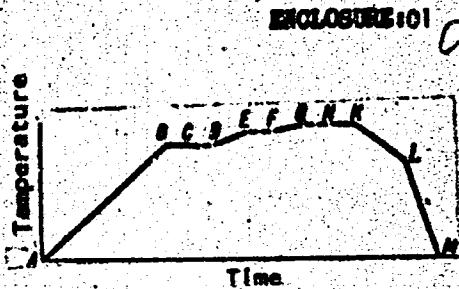


Fig. 2. Diagram of upsetting of part 2 of alloy B: AB-heating in furnace; BC-heating at given temperature; CD-upsetting; DE-heating in furnace; EF-second upsetting; FG-heating in furnace to temperature of G; GH-third upsetting; HK-heating in furnace to temperature of H; KL-slow cooling in glass wool; LM-air cooling.

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ACCESSION NR: AT4046865

ENCLOSURE 02

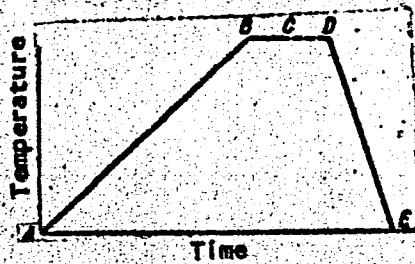


Fig. 3. Diagram of upsetting of part 3 of alloy B:
AB-heating in furnace; BC-heating at given temperature;
CD-upsetting during one stroke of press; DE-air cooling.

Card 5/5

ACC NR: AT6034443 (A) SOURCE CODE: UR/0000/66/000/000/0109/0112

AUTHOR: Rastegayev, M. V.; Danil'chenko, A. N.; Kashin, V. I.; Zharov, V. M.; Vasyukov, G. A.

ORG: none

TITLE: Investigation of the recrystallization process in tungsten

SOURCE: AN SSSR. Institut metallurgii. Svoystva i primeneniye zharoprochnykh splavov (Properties and application of heat resistant alloys). Moscow, Izd-vo Nauka, 1966, 109-112

TOPIC TAGS: tungsten, metal recrystallization

ABSTRACT: The subject of the investigation was vacuum melted tungsten, reduced with niobium. The tungsten billets with a diameter of 35 mm were worked down on a lathe to a diameter of 16 mm and were cut into samples with a height of 39 mm. Upsetting of the samples was done in a hydraulic press with a degree of reduction of about 40%. The first part of the samples was subjected to stepwise annealing in a vacuum furnace (vacuum 10^{-4} mm Hg) at temperatures of 1250, 1400, 1600, 1800, and 2000° for a period of 40 minutes. After each anneal, the samples were cooled in the furnace to 20°; polished samples were then prepared and examined for degree of recrystallization. The experimental results are shown in a three dimensional diagram of the recrystallization —

Card 1/2

ACC NR: AT6034443

of the cast structure of tungsten. Analysis of the results shows that 100% recrystallization of the cast structure in the samples, deformed by approximately 40% in the temperature interval from 400-1200°, is completed at a stepwise annealing temperature of 2000°. With direct heating (without steps) of the second part of the samples, although complete recrystallization was assured, the boundaries of the old crystals were retained. With annealing temperatures in the interval from 1400-1800°, the cast structure recrystallized partially within the limits of 25-90%. At an annealing temperature of 1250°, the cast structure of the samples deformed by 40% in the temperature interval 200-1250° did not recrystallize. The cast structure, deformed at 200°, did not recrystallize in the temperature interval from 1250-1600°. However, in samples deformed at higher temperatures (800°) partial recrystallization was observed. Orig. art. has: 3 figures and 1 table.

SUB CODE: 11/ SUBM DATE: 10Jun66/ ORIG REF: 003/ OTH REF: 001

Card 2/2

DANIL' CHENKO, B., inzh.

Cleaning the radiator of SK-3 combines. Tekh. v sel'khoz.
20 no. 7:85 Ju '60. (MIRA 13:9)

1. Sukhotlinskiy gernosovkhoz, Bashkirskoy ASSR.
(Combines (Agricultural machinery))

DANIL'CHENKO B V.
Fursov, V. M., Engineer

TITLE: All-Union Conference on the hardfacing of dies for hot and cold
press-forming

MIRIODICAL: Svarochnoye proizvodstvo, no. 3, 1963, 44 - 45

TEXT: The First All-Union Scientific-Technical Conference on hardfacing of dies was held at Volgograd from November 27 - 29, 1962. The Conference heard the following reports: N. T. Prosvirov (VNIIPTMASH) on "Operational conditions and the type of forging dies"; L. A. Poznyakova (VNIIMASH) on "Problems of the durability of dies and press-forming steels"; V. A. Popov, VNIIMASH, on some structural peculiarities of carbide tools for cold extrusion and upsetting; I. I. Frumin, B. V. Danil'chenko (Institute of Electric Welding imeni Ye. O. Paton) on "Electric-slag hardfacing of some dies"; L. Kolomets (IEG imeni Ye. O. Paton) on "Reconditioning of dies by electric-slag hardfacing"; V. A. Timchenko (IEG imeni Ye. O. Paton) on "A machine with program control for automatic hardfacing of forging dies"; Reports on manual arc-hardfacing of dies were delivered by N. V. Popov (Volgograd Tractor Plant), V. M. Panovko and Ye. G. Bloshkin (Moscow Experimental Welding Plant); O. D. Superko (Chelyabinsk Tractor Plant), N. I. Nikolkko (Ural Heavy Machinebuilding Plant), P. M. Sapov ("Rostsel-mash"), N. I. Kuzovkova (GAZ), Yu. P. Zaytsev (VNIIMASH), V. I. Il'yin (ZIL), Gopovin (Khar'kov "Svet shakhtera" Plant), and others. In a decision the Conference mentioned deficiencies connected with the subject, i.e. lack of unified electrodes; of centralized production; of unified technological instructions on the hardfacing of dies; of methods for evaluating the quality of hardfaced metal, and lack of high-quality electrodes for hardfacing cast-iron dies. The Conference decided to take steps in order to eliminate the aforementioned deficiencies.

(16)

DANIL'CHENKO, B.V.; SUBBOTOVSKIY, V.P.

Electric slag buildup welding of certain types of forging dies.
Avtom.svar. 17 no.1:71-74 "a '64. (MIRA 17:3)

1. Institut elektrosvarki imeni Patona AN UkrSSR.

DANIL'CHENKO, I.A.

Rectification of the probabilities of the appearance of binary digits by superposing direct and inverse representations. Vop. teor. mat. mash. no.2:226-231 '62. (MIRA 15:8)
(Electronic calculating machines) (Mathematical statistics)

ACC NR: AT6023929

SOURCE CODE: UR/3220/66/000/001/0012/0021

AUTHOR: Danil'chenko, I. A.

ORG: none

TITLE: On the problem of systematizing electronic digital computers

SOURCE: Tsifrovaya vychislitel'naya tekhnika i programmirovaniye, no. 1. Moscow, 1966, 12-21

TOPIC TAGS: electronic computer, computer classification, digital computer, computer component

ABSTRACT: The last decade has seen great proliferation of digital computers in accord with the principles, logic, and circuitry used in them. This article presents a classification on the following divisions and subdivisions and gives general remarks about each. Function: Calculation, Information, Control (general and special purpose); Basic elements: Tubes; Semiconductors; Moletron (integral, functional); Capacity: Small, Medium, Large, Large-capacity systems; Physical interpretation of codes: Static (potential, pulse-potential, pulse), Dynamic (pulse, phase, frequency); Information routing: Parallel, Series, Series-parallel; Order of command sequence: Natural, Arbitrary; Numeration system: Positional (binary, binary-coded, non-binary), Non-positional; Command type: Single-address, Multi-address (uniform or non-uniform address structure), Arbitrary instruction format, Permanent structure, Variable

Card 1/2

UDC: 681.142.3

ACC NR: AT6023929

structure; Number representation: Fixed point, Floating point; Realization of commands; Macroprogram, Microprogram, Micro-operation; Coordination of work: Synchronous (constant or variable execution time), Asynchronous (autonomous or centralized circuit synchronization); Organization of computing process: Single-program, Multiprogram (design or time division); Operating conditions: Stationary, Mobile. Orig. art. has: 1 formula and 1 table.

SUB CODE: 09/ SUBM DATE: none/ ORIG REF: 007/ OTH REF: 001

Card 2/2

AUTHORS: Myrzak, Yu. I., and Danilchenko, G. V. Engineers U-28-58-4-10 '75

TITLE: The Application of Standards to Structural and Machine-Construction Steel ("primeneniyu standartov na konstruk-
sionnyu i mashinostroiteльnuyu stal")

PUBLISHER: Standartizatsiya, 1958, tr. 4, pp. 44-120.

ABSTRACT: Steel production adapted to the new GOST standards 1050-57 and 4543-57 must be stepped-up. These standards provide for raised requirements in the quality of steel, and are directed to the improvement of mechanical properties and homogeneity of steel, by a reduced limit interval of basic components and reduced impurity content in the chemical composition. Yield limits were also included into the standards as a characteristic for determining steel strength. Experimental casts from the Taganrog Metallurgical Plant, the Stalingrad "Krasnyy Ktyabr" plant and the Zhdanov plant imeni Ul'rich were subjected to investigation and revealed that the intervals of carbon con-

Card 1/2

The Application of Standards to Structural and Machine-⁷ Instruc⁸tions (Steel) . V- 5-58-1-29/25

tent were reduced and that sulfur and phosphorus content complied with requirements set up by GOST 380-67 i.e. not over 0.05% of sulfur and not over 0.045% of phosphorus. There are 8 graphs.

ASSOCIATION: Taganrogskiy zavod "Krasnyy Kotel'shchik" The Taganrog "Krasnyy Kotel shchik" plant

1. Steel--Production 2. Steel--Quality control 3. Steel
--Standards

Card 2/2

Sov. 1963-6-24/34

AUTHORS: Myrzak, Yu.P., Danil'chenko, I.I., engineers

TITLE: On the Technical Specifications for Steel Tubes
(O tekhnicheskikh spesifikatsiyakh na stali'nyye truby)

PERIODICAL: Standartizatsiya, 1963, Nr 1, II Tg-83 (USSR)

ABSTRACT: In boiler manufacturing, hot-rolled tubes which are connected by electric arc or contact butt welding are used. The non-coincidence of the outer diameters of the two tubes must not exceed 3 mm or 10% of the thickness of the tube, the difference of the two inner diameters 2 mm. The tolerances in the outer diameter and the thickness of the wall do not satisfy all requirements for connecting the tubes. In the State Standard GOST 8732-58, the deviations are not kept in narrow

Card 1/2

SOW 12H-55-6-24/34

. On the Technical Specifications for Steel Tubes

enough limits. A new standard should be developed.

ASSOCIATION: Taganrogskiy zavod "Krasnyy kotel'shchik" (Taganrog Plant "Krasnyy kotel'shchik")

Card 2/2

DANIL'CHENKO, K.Ya., gornyy inzhener.

Organization of work cycles in stoping. Gor. zhur. no.10:23-26
0 '56. (MLRA 9:12)

1. Proizvodstvennoye upravleniye Dal'stroya.
(Soviet Far East--Mine management)

София, 1981.

Григорьев, А.А.: "The pedagogic activity and political views of A. A. Ostrovskiy". Moscow, 1981. In: Education (SFSU), 1981, No. 1. Pedagogical Institute I.P. Potemkin. (Dissertation for the degree of Candidate of Pedagogical Sciences).

"Anatoliyevskiy", 1981, 19 October, 1981, page 1.

BABIN, Pavel Nikolayevich, kand.tekhn.nauk; ZUBAKOV, Sergey Mikhaylovich,
kand.tekhn.nauk; AVER'YANOV, Veniamin Aleksandrovich, inzh.;
VASHCHENKO, Fedor Il'ich, starshiy master; KUNAYEV, Vyacheslav
Gavrilovich; EPOV, Georgiy Agafonovich, inzh.; BYCHKOV, Fedor
Nikolayevich; DANIL'CHENKO, Mikhail Pavlovich; GOTS, Stepan
Nikolayevich; ZHUKOVA, N.D., red.; ALFEROVA, P.F., tekhn.red.

[Work practices of the Kazakh Steel Mill] Iz opyta raboty
Kazakhskogo metallurgicheskogo zavoda. Alma-Ata, Izd-vo Akad.
nauk Kazakhskoi SSR, 1960. 112 p. (MIRA 13:12)

1. Tsentral'naya laboratoriya Kazakhskogo metallurgicheskogo
zavoda (for Kunayev). 2. Nachal'nik martenovskogo tschka Kazakhsko-
go metallurgicheskogo zavoda (for Epov). 3. Inzhenerno-tekhni-
cheskiye rabotniki prokatnogo tschka Kazakhskogo metallurgicheskogo
zavoda (for Bychkov, Danil'chenko, Gots).

(Kazakhstan--Steel industry)

PROCESSED AND RECEIVED BY 1000

Plastic properties of high-chromium and of chromium-manganese-aluminum steels. N. M. Dantchenko, Leningrad Prakt. Met., No. 10, p. 70 (1937). The following steels were investigated: (1) C 0.10, Cr 30.13, Si 0.63, Mn 0.18, P 0.12%; (2) C 0.20, Cr 30.73, Si 0.75, Mn 0.16, P 0.01%. The investigation was directed along the following lines: (a) effects of deformations and of subsequent heating temp upon the microstructure; (b) effects of cold deformations and of subsequent heat treatment upon the plastic properties of the steels. For the first 2 steels the cold deformation was in the interval 5-12%. The plastic properties reappear at 550°. The best plastic properties are at 650-700°. At 1000° and 5% deformation there is a sharp drop of the plastic properties, the same is true at 1100° and large deformations. For 5% deformation there was a noticeable grain growth at 1000°, at 1100° it reaches large proportions, and at 1200° it reaches a max. For deformations of 30 and 50% there is a weak grain growth at 900° which becomes considerable at 1100° and reaches a max. at 1200°. For the third steel the plastic properties do not change much up to 600° for both large and small deformations. From 600° on there is a sharp drop in the plastic properties. For large deformations this drop starts earlier (600°). From 600° there is a rapid rise in the plastic properties which reach a max. at 1100-1150°. Small deformations (5, 7, 10%) did not bring any noticeable changes in the microstructure; for 20 and 30% there was a change in the normal arrangement, and for 50% the structure had a fibrous character. Heating to 700-800° eliminates the fibrous structure.

B. Z. Kamish

DATA LISTING, W. M.

2000, 1000, 1000, 1000, 1000, 1000, 1000, 1000, 1000,
No. 1, 1000, 1000, 1000, 1000, 1000, 1000, 1000,
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"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001109

Re: [REDACTED] M. V. [REDACTED]
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[REDACTED], [REDACTED] [REDACTED]

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001109

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The form of carbon inclusion in annealed steel. K. P. Bo
gin and N. M. Danilchenko. *Doklady Akad. Nauk. SSSR*, 1950,
80, No. 1, p. 11-15. (C. I. 45-278) On the basis of
exams. of steel specimens under the microscope, it is pro-
posed that the forms of inclusions of small C depend on
the shape of the voids which in turn depend on the self-
diffusion of the Fe. Additives also play an important
role. For example, S and Mg lead to formation of spherical
voids. Murray Senkus

C. *

Metastability of iron-carbon alloys K. I. Broido ⁴⁰
N. M. Dantchenko, D. S. Reed, N. A. K. S. S. K. 72
Sov. J. Phys. Chem. 55, No. 10, p. 2260, 1981
It is proposed that the principal factor in the graphitization of Fe-C alloys is the self-diffusion of Fe to produce the voids in which the graphite can nucleate and grow. As evidence for this view, careful experiments graphitization above the eutectoid temp. have given activation energies similar to the activation energy of the process. This value is closer to that for self-diffusion of Fe (74,000) than for the diffusion of C in Fe (32,000). Also, prior treatments that produce voids or cracks in the alloy greatly speed graphitization by quenching, working, and interdenitizing. Breakage of the effect of Se on graphitization may be due to its decreasing the rate of self-diffusion of Fe.

BUNIN, K.P., chlen-korrespondent; DANIL'CHENKO, N.M.; IVANTSOV, H.I.

The source of line-like graphite impurities in wrought iron. Dop. AM USSR no. 3:
237-241 '52. (MLRA 6:9)

1. Akademiya nauk Ukrayins'koyi RSR (for Bunin). 2. Dnipropetrov's'kyi metalur-
hichnyy instytut im. T.V. Stalina. (Wrought iron)

DANIL'CHENKO, N. M.

USSR/Metallurgy - Malleable Iron, Structure

Jun 52

"On the Origin of Graphite Strings in Malleable Iron," K. P. Bumin, Corr Mem, Acad Sci Ukrainian SSR, N. M. Danil'chenko, Engr, G. I. Ivansov, Cand Tech Sci. "Litey Proizvod" No 6, pp 21-23

Establishes that string inclusions of graphite in malleable iron of normal chem compn and at normal conditions of heat treatment are formed during annealing of white cast iron in zones of shrinkage microporosity. States that basic measure against this defect is elimination of possibility for formation of dispersed shrinkage, for which purpose successive directional crystn must be achieved during solidification of castings.

PA 230T42

DANIK'CHENKO, N. N.

UEB/Metals - Cast Iron, Heat Treatment 21 Jan 52

"Concerning the Effect of Preliminary Hardening on the Graphitization Rate of Cast Iron," K. P. Bunin, N. N. Danik'chenko

"Dok Ak Nauk UEBR" Vol LXXII, No 3, pp 381-383

Presents exptl data corroborating previously formulated assumption concerning role of preliminary hardening. Numerous microscopic hardening cracks are formed in matrix of white cast iron, on interphase surfaces as well as in martensite, being

211761

filled out with C on heating of cast iron. Thus, centers of graphitization are created accelerating graphitization process. Submitted by Acad I. P. Barin.

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DANIL'chenko, N. M.

USSR

Journal of studies on precipitation of white iron.
V. P. Bondar', Yu. V. Chudayev, and N. M. Danil'chenko.
Zhurnal Tekhnicheskoy Kemi, No. 3, 19-14. Summary programs
of precipitation are reviewed (26 references),
and the effect of temperature, character of the surface and of
H₂ content in steel, on precipitation. Two induction furnaces
were used with 0.004% Al and casting C 2.0, Si 0.91,
Mn 0.24, P 0.41, S 0.005% and Cr-Al, Si 0.92, Mn
0.23, S 0.005, P 0.08%, cast, and a capsule form with C
0.41, Si 0.98, Mn 0.55% were cast in 20 × 200-mm bars at
1400°. Heating was carried out in a bath of cast iron boron,
0.01% boron. Some of the cylinders were heated at
one end in a flame and maximum stresses eliminated by
cooling under water circulation. Heating 1 hr. at
1400° resulted in a distribution of heat uniform throughout
the body of specimen, which remained at the surface and
retracted in the core. Dendritic structure of the iron has no
effect on the precipitation pattern. No relation was found
between the rate of evolved H₂ obtained in precipitation in
specimen and the no. of formed granular particles.

J. D. Gat

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Danil'chenko, N. M.

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Influence of macrostructure on the plasticity of steel.
A. P. Chekmarov, A. A. Dinnik, V. P. Grechko, I. P.
Filichkin, and N. M. Danil'chenko. *Sov. Pat.* 16, 235-40
(1958). — For checking the necessity of light passes in blooming
tender ingots, 3 ingots of 0.59% C rail steel and of
0.18 C-0.81 Mn open steel were bloomed down and one of
each was cut into slabs contg. ingot skin, dendrite layer, or
equiaxed crystals of ingot core. Blooms were then forged
down to the dimensions of these slabs, and all of them were
rolled after proper heating in one pass into wedges in an
eccentric mill with a max. reduction of 93%. Studying
reductions necessary for crack formation permitted the
conclusion that the macrostructure of the steel has no effect
whatever on its plasticity characteristics, and cracking,
when occurring, was caused by surface defects. J. D. G.

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VMP

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Inst. Ferrous Metallurgy (in Petrovskiy)

VANILCHENKO, N.M.

3
1-4E2c

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~~not~~ 12649* (Russian.) Methods of Investigating Cast Iron Graphitization Kinetics. K voprosu o metodike issledovaniia kinetiki grafitizatsii chuguna. In: V. Grechnev and N. M. Dardilchenko, *Litchnoe Proizvodstvo*, no. 3, Mar. 1957, p. 20-29.

~~Sup~~ Critical review of test methods.

RG *cont*

BUNIN, K.P.; GРЕЧНYY, Ya.V.; MALINOKHA, Ya.N.; TARAN, Yu.N.; BEL'CHEMKO, O.I.;
POGРЕBNYY, E.N.; DANIL'CHENKO, N.M.; YATSENKO, A.I.; RЕPIN, A.K.;
BARANOV, A.A.; SHPAK, T.M.

Is metastable austenite possible at a point higher than Δ_1 ?
Izv.vys.ucheb.zav.; chern.met. no.10:143-144 0 '58.

(MIRA 11:12)

1. Dnepropetrovskiy metallurgicheskiy institut i Institut chernoy
metallurgii AN USSR.

(Austenite) (Phase rule and equilibrium)

DANIL'CHEMKO, N.V.

Equations of hydrodynamic flow nets for hydraulic-tell charts
Nauch.dokl.vys.shkoly; stroi. no.1:267-268 '59.
(MIRA 12:10)

1. Rekomendovana kafedroy gidravliki M^{os}kowskogo inzhenerno-
stroitel'nogo instituta im. V.V.Kuybyshova.
(Hydraulics)

ALEKSEYEV, V. I., kand.sel'skokhoz.nauk; DANIL' CHENKO, N.V. (g.Alma-Ata)

Establishing irrigation norms for agricultural crops by the
evaporation deficit method. Gidr. i mel. 12 no.8:10-15 Ag
'60. (MIRA 13:8)

(Alma-Ata Province—Irrigations research)

KISELEV, Petr Grigor'yevich, kand. tekhn. nauk; Prinyal uchastiye
KRIVCHENKO, G.I., dots., kand. tekhn. nauk; ZEURIN, V.D., prof.,
doktor tekhn. nauk, red.; DANIIL'CHENKO, N.V., red.; ZHIVOTOVSKIY,
L.S., red.; ORLOV, V.A., red.; VORONIN, K.P., tekhn. red.

[Reference book for calculations in hydraulic engineering] Spra-
vochnik po gidravlicheskim raschetam. Izd.3., perer. i dop. Pod
red. V.D.Zhurina. Moskva, Gos. energ. izd-vo, 1961. 352 p.

(MIRA 14:8)

(Hydraulics—Tables, calculations, etc.)

DANIL' CHENKO, N. V.

Cand Tech Sci - (diss) "Study of filtration and infiltration in the process of silting earth dams." Moscow, 1961. 18 pp; (Academy of Construction and Architecture USSR, All-Union Scientific Research Inst of Water Supply, Canalization, Hydraulic Structures, and Hydrogeology "VODGYeO"); 180 copies; price not given; bibliography on pp 17-18; (KL, 7-61 sup, 234)

GORYUNOV, N.S., kand. tekhn. nauk (Dzhambul); KVAN, R.A., inzh. (Dzhambul);
DANIL'CHENKO, N.V., irzh. (Dzhambul)

Irrigation conditions of sugar beets in Kazakhstan. Gidr. i mel.
16 no.7:3-13 J1 '64. (MIRA 17:11)

DANIL' CHENKO, O.P.

Interrelationship between biology, physics, and chemistry.
Nauch. dokl. vys. shkoly; biol. nauki no.4:209-210 '59.

(MIRA 12:12)

(Biology)

DANIL'CHENKO, O.P.

Dynamics of Sr⁹⁰ and Y⁹⁰ metabolism in the sturgeon body. Nauch. dokl. vys. shkoly; biol. nauki no.1:148-151 '60. (MIRA 13:2)

1. Rekomendovana kafedroy biofiziki Moskovskogo gosudarstvennogo universiteta im. M.V. Lomonosova.
(FISH TAGGING) (STRONTIUM--ISOTOPES)
(YTTRIUM--ISOTOPES)

DANIL' CHENKO, O. P.

Cand Biol Sci - (diss) "Metabolism of strontium-90 and ittrium-90 in the organism of the sturgeon." Moscow, Pub. Moscow Univ, 1961. 11 pp; (Moscow Order of Lenin and Order of Labor Red Banner State Univ imeni M. V. Lomonosov); 200 copies; price not given; (KL, 5-61 sup, 183)

KALASHNIKOVA, Tat'yana Mikhaylovna; SAUSHKIN, Yu.G., prof., otv.red.;
DANIL'CHENKO, O.P., red.; YERMAKOV, M.S., tekhn.red.

[Features of the economic geography of Northern Russia; lecture]
Ekonomiko-geograficheskaja charakteristika Severa SSSR; lektsiiia.
Otvet.red.IU.O.Saushkin. Moskva, Izd-vo Mosk.univ., 1960. 38 p.
(MIRA 14:3)

(Russia, Northern--Economic geography)

PRONIN, Vladimir Aleksandrovich; DANIL'CHENKO, O.P.; YERMAKOV, M.S.,
tekhn.red.

[Michurian Darwinism] Michurinskii darvinizm. Moskva, Izd-vo
Mosk.univ., 1961 22p. (MIRA 14:6)
(BIOLOGY) (EVOLUTION)
(MICHURIN, IVAN VLADIMIROVICH, 1855-1935)

SHUL'GIN, Aleksandr Mikhaylovich; DANIL'CHENKO, O.P., red.; YERMAKOV,
M.S., tekhn. red.

[Agrometeorology; a course of lectures for correspondence
students at biological departments of state universities]
Agrometeorologija; kurs lektsii dlia studentov-zaochnikov
biologicheskikh fakul'tetov gosudarstvennykh universitetov.
Moskva, Izd-vo Mosk. univ., 1961. 132 p. (MIRA 15:3)
(Meteorology, Agricultural)

LANGE, Oktaviy Konstantinovich, prof.; IVANOVA, Melentina Fedorovna;
DANIL'CHENKO G.P., red.; YERMAKOV, M.Ye., tekhn.red.

[General geology; a lecture course] Osnovnaya geologiya;
kurs lektsii. Pod red. A.Lange. Moskva, Izd-vo Mosk.univ.
No.1. 1961. 242 p.
(Geo) ->

KRUKOVSKIY, Yuryi Aleksandrovich; AVDEICHEV, Lev Alekseyevich;
DANIL'CHENKO, O.P., red.; MASLENNIKOVA, T.A., tekhn. red.

[Economic geography of the Pyrenean countries: Spain and
Portugal. Lecture for correspondence school students of the
geographical faculties of state universities]Ekonomicheskaiia
geografiiia Pireneiskikh stran; Ispaniia i Portugaliia. Lektsii
dlia studentov-zaochnikov geograficheskikh fakul'tetov gosu-
darstvennykh universitetov. Moskva, Izd-vo Mosk. univ., 1962.
78 p. (MIRA 15:10)

(Spain—Economic geography)
(Portugal—Economic geography)

L'VOVA, Irina Nikolayevna; KUPERMAN, F.M., prof., otv. red.;
DANIL'CHENKO, O.P., red.; GEORGIYEVA, G.I., tekhn. red.

[Sex in plants; a lecture from the course "Biology of plant development"] Pol u rastenii; lektsiia dlja studentov zaochnogo i vechernego otdelenii biologicheskikh fakul'tetov gosudarstvennykh universitetov. Lektsiia iz kursa "Biologija razvitiia rastenii." Moskva, Izd-vo Mosk. univ., 1963. 54 p.
(MIRA 16:5)

(Plants, Sex in)

SHUL'GIN, Igor' Aleksandrovich; KUPERMAN, F.M., prof., otv. red.;
KLESHIN, A.F., prof., otv. red.; DANIL'CHENKO, O.P.,
red.; GEORGIYEVA, G.I., tekhn. red.

[Morphological adaptations of plants to light; optical
properties of leaves. A lecture from the course "Biology
of plant development"] Morfofiziologicheskie prispособления
растений к свету; оптические свойства листьев. Лекция из
курса "Биология развития растений." Москва, Изд-во Моск.
унив. 1963. 72 p. (MIRA 16:9)

(Leaves—Optical properties)

SHAPOCHKA, Nikolay Mikhaylovich; DANIL'CHENKO, O.P., red.;
YEROMAKOV, M.S., tekhn. red.

[Lamarck's theory of evolution; lecture from a course in
Darwinism] Evoliutsionnoe uchenie Lamarka; lektsiiia iz
kursa "Darvinizma." Moskva, Izd-vo Mosk. univ. 1963. 82 p.
(Evolution) (MIRA 16:12)

GREGUSH, P. [Greguss, Pal]; FILIN, V.R.[translator]; CHISTYAKOV.A.
C.N.[translator]; DANIL'CHENKO, O.P., red., YUKHINA, L.V.,
tekhn. red.

[A guide to the wood analysis of gymnosperms based on
microscopic data] Opredelitel' drevesiny golosemennykh
po mikroskopicheskim priznakam Moskva, Izd-v. Mosk.
univ. 1963. 183 p. Translated from (MIRA 16:11)
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(Wood--Anatomy) (Gymnosperms)

GURTOVOY, Nikolay Nikolayevich; MATVEYEV, B.S., prof., red.;
DANIL'CHENKO, O.P., red.; CHISTYAKOVA, K.S., tekhn.red.

[Comprehensive laboratory manual on zoology of the
vertebrates; anatomy section] Bol'shoi praktikum po zo-
ologii pozvonochnykh; anatomicheskaia chast'. Moskva,
Izd-vo Mosk. univ., Pt.1. no.2.[Cyclostomata] Kruglorotye;
metodicheskoe rukovodstvo dlia biologicheskikh fakul'tetov
gosudarstvennykh universitetov. 1963. 59 p. (MIRA 17:1)

KUPERMAN, Faina Mikhaylovna; DANIL'CHENKO, O.P., red.; GEORGIYEVA,
G.I., tekhn. red.

[Characteristics of the individual development of plants
depending on the conditions of the environment; light and
plant development] Zakonomernosti individual'nogo razvitiia
rastenii v zavisimosti ot uslovii vneshnei sredy; svet i
razvitiye rastenii. Lektsiiia iz kursa "Biologiya razvitiia
rastenii." Moskva, Izd-vo Mosk. univ., 1963. 102 p.
(MIRA 17:2)

DVORYANKIN, Fedor Andreyevich; DANIL'CHENKO, O.I., red.

[Darwinism and the history of evolutionary theories;
advice for instructors of biology departments in state
universities] Darwinizm i istorija evoliutsionnykh
uchenii; sovety prepodavateliam biologicheskikh fakul'te-
tov gosudarstvennykh universitetov. Moskva, Izd-vo Mosk.
univ., 1964. 45 p. (MIRA 18:4)

СУПЕРВИЗОРЫ УЧЕБНОГО ПРОЦЕССА, КОМПЛЕКСНЫЙ УЧЕБНИК, 1974;
Биология животных, часть I.

(Comprehensive laboratory manual on morphology of the
vertebrates; anatomical part) Болшое практикум по зо-
логии (озвученный); анатомическая часть. Морковь,
изд-во Ун-та физ.-мат. науки, 1974. (14:8)

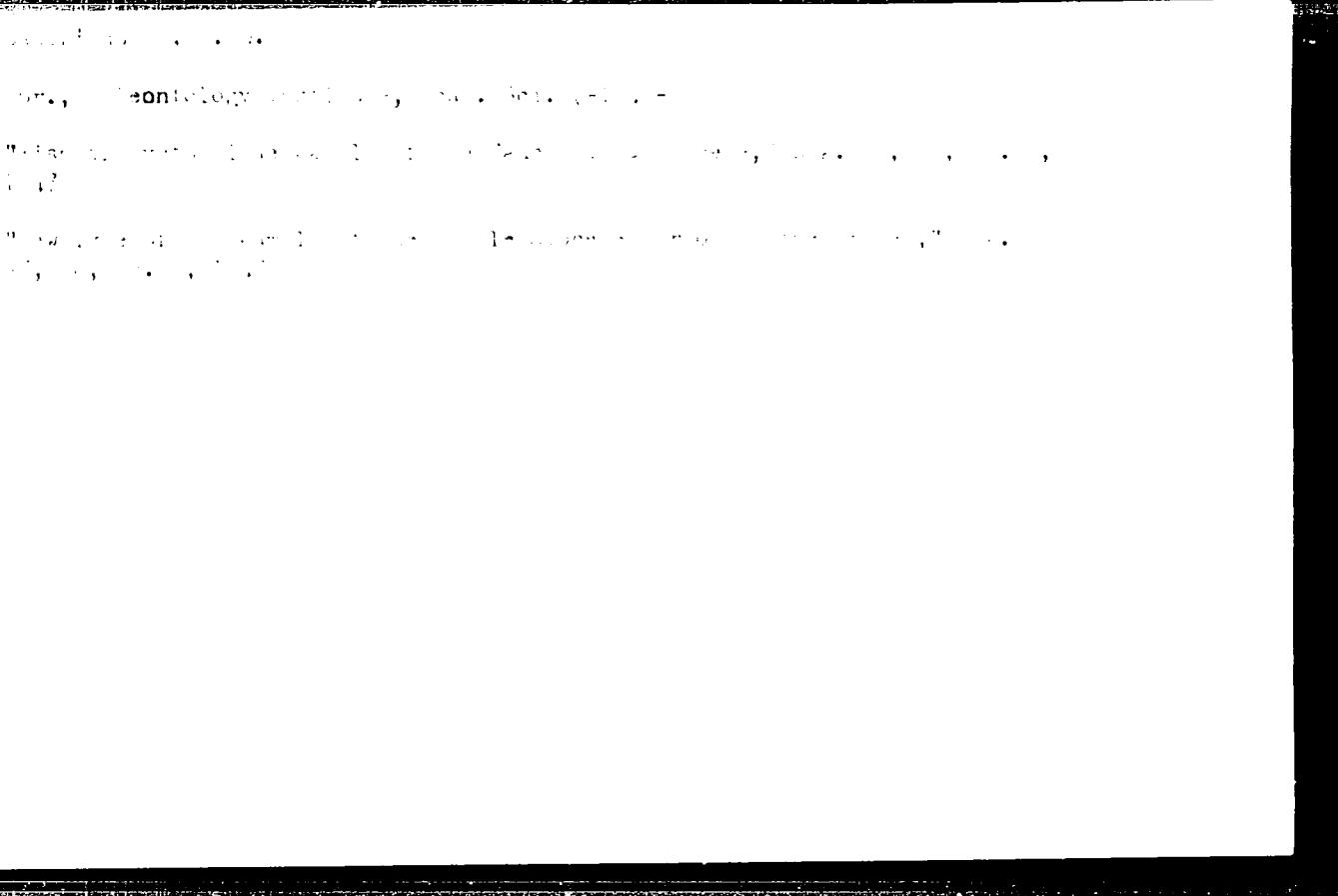
MAKSIMOVA, Valentina Fedorovna; VORONOV, A.G., prof., otd. red.;
DANIL'CHENKO, O.P., red.

[Botanical geography with the fundamentals of general
botany; methodological instructions for second year cor-
respondence students of state university geography
faculties] Botanicheskaya geografiya s osnovami obshchei
botaniki; metodicheskie ukazaniia dlia studentov-zae-
nikov II kursa geograficheskikh fakul'tetov g. sudar. tver-
nykh universitetov. Moskva, Izd-vo M. K. univ., 1970.
36 p. v. 1.4 (1970)

DANIL'CHENKO, O.Ya., inzh. [deceased]

Important condition for reducing the cost of production. Mashino-
stroitel' no.12:16-17 D '57. (MIRA 10:12)
(Manufactures--Costs) ,

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001109



APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001109

DANIL'CHENKO, P. G.

PA 38T74

USSR/Medicine - Fish
Medicine - Taxonomy

Nov 1947

"Phylogenetic Relationship between Genera *Palaeogadus* and *Merluccius*," P. G. Danil'chenko, Paleontological Institute of the Academy of Sciences of the USSR, 32 pp

"Dok Ak Nauk" Vol LVIII, No 4

Author gives results of his observations which led to conclusions that there were several phylogenetic relationships between two genera of fishes *Palaeogadus* and *Merluccius*. Submitted by Academician I. I. Shmal'-gauzen, 22 Apr 1947.

38T74

DANIL'CHENKO, P. G.

Danil'chenko, P. G.; Rozhestvenskiy, P. G. - "Discovery of Fish in Melanite Formations of Eastern Carpathians," Priroda, No. 5, 1949.

BINELLIOTTI, I. S.

21542 BINELLIOTTI, I. S.

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Trudy Belozerov. in - in ("zad. nauk i. t. z. z.", t. 10, s. 132 - 133.
Bibliogr: s. 142.

"In: Letorisi' Shurnal'nyi Statey, 1973, 10, 132-133."

ANNE T. MURRAY

"Fossil Flora (part) of Controversy, Wall River, Vt., by G. C. Ell, M. I.,
1921," 1922.

The author describes two species of the genus *Lilium* from the upper
maine and Spuria triticea of the Connecticut River. He also describes
one species of the fish *Acipenser* from low r. Connecticut, one species of
series of *Predkarpatskya* (Pre-Carpathian) and one species
of the fish *Stomias* from the low r. Kuzurya, a site of birth of *Stomias*. The
indicated forms can't be referred to the family *Acipenseridae* because of
the presence of small weakly developed anal fin, thick tail stalk, fine
scales on the jaws. (F. 1922, No 4, 1922)

Sum. No. 471, 7 Int 15

DANIL'CHENKO, P.G.

A lower Mayko species of the genus Sardinella. Paleont. zhur. no.1:
95-97 '59. (MIRA 13:1)

1. Paleontologicheskiy institut Akademii nauk SSSR.
(Belaya Valley (Krasnodar Territory)--Herring, Fossil)

DANIL'CHENKO, P.G.; OBRUCHEV, D.V., ovt.red.; RAKOV, V.A., red.izd-va;
MAKAGONOVA, I.A., tekhn.red.

[Bony fishes from Maikop deposits of the Caucasus] Kostistye
ryby Maikopskikh otlozhenii Kavkaza. Moskva, Izd-vo Akad.nauk
SSSR, 1960. 207 p. (Akademia nauk SSSR. Paleontologicheskii
institut. Trudy, vol.78). (MIRA 13:11)
(Caucasus—Teleostei, Fossil)

DANIL'CHENKO, P.G.

Fishes of the Dabakhanka series in Georgia. Paleont.zhur. no.1:
111-126 '62. (MIRA 15:3)

1. Paleontologicheskiy institut AN SSSR.
(Tiflis region--Fishes, Fossil)

DANIL'CHENKO, Pavel Trofimovich 1902-1962

1964

CHEMICAL

DECEASED

DANIL'CHENKO, S.D., glavnyy inzhener depo.

Electromagnetic device used in pouring control samples. Zhel.
dor. transp. 37 no.11:76 N '55. (MLRA 9:2)
(Metal castings)

PRONIN, Mikhail Vasil'yevich; LEONT'YEVSKIY, Ye.S., retsenzent;
DANIL'CHENKO, S.M., retsenzent; VOYTSEKHOVSKIY, V.I., red.;
KAN, P.M., red. izd-va; BODROVA, V.A., tekhn. red.

[Prolonging the life of the 3D6 engine]Udlinenie sroka sluzhby
dvigatelya 3D6; opyt Kievskogo sudostroitel'no-sudoremontnogo
zavoda. Moskva, Izd-vo "Nechnoi transport," 1962. 62 p.

(MIRA 16:1)

(Naval diesel engines)

1. NIKHICHENKO, V.
 2. USSR (60)
 4. Tractors.
 7. Electric tractor models for irrigation culture. Sov. Inventor's Certificate No. 1, 1952.
9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

TORBAN, S.S., kand.tekhn.nauk; DANIL'CHENKO, V.N., inzh.-mekhanik

Testing and modernizing machines used in hoisting drift nets.
Trudy VNIRO 39:11-22 '59. (MIRA 14:6)
(Fishing— Implements and appliances)

TORBAN, S.S., kand.tekhn.nauk; DANIL'CHENKO, V.N., inzh.-mekhanik

Investigating and developing the design of machinery for shaking fish
out of drift nets. Trudy VNIRO 39:23-42 '59. (MIRA 14:6)
(Fishing— Implements and appliances)

TORBAN, S.S., kand.tekhn.nauk; DANIL'CHENKO, V.N., inzh.-mekhanik

Experimental installation for investigating the process of ice boring.
Trudy VNIRO 39:87-90 '59. (MIRA 14:6)
(Ice) (Boring)

TORBAN, S.S., kand.tekhn.nauk; DANIL'CHENKO, V.N., inzh.-mekhanik

Some parameters of the process of ice boring. Trudy VNIRO 39:91-98
'59. (MIRA 14:6)
(Ice) (Boring)

L 4505-66

ACCESSION NR: AP5023282

UR/0302/65/000/003/0061/0063

681.20

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AUTHOR: Danil'chenko, V. P.

TITLE: Electrohydraulic converter

SOURCE: Avtomatika i priborostroyeniya, no. 3, 1965, 61-63

TOPIC TAGS: electrohydraulic effect, valve, hydraulic device, automatic regulation

ABSTRACT: The electrohydraulic converter developed by the OSKB of the Khar'kov KIP factory is intended for the conversion of the signal of mismatch of the output converter of the primary device and the ferrodynamic system, into the displacement of a valve controlling the hydraulic actuating mechanism. The converter secures an astatic regulation and has a region within which the velocity of the actuating mechanism is proportional to the magnitude of the input signal. The article discusses the operating principles and design of the converter and explains the design of the distributor valve. The device needs no more than 70 w from a 127-v 50-cps network; time for the full valve movement is 7 sec; the zone of converter insensitivity does not exceed 1.5% of the maximum mismatch signal; oil consumption is at least 9 liter/min, oil pressure ahead of the converter is 6 to

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ACCESSION NR: AP5023282

12 kg/cm², and total weight is 13 kg. The device was successfully tested and is being produced commercially since 1964. Orig. art. has: 3 formulas, 2 figures, and 1 table.

ASSOCIATION: None

SUBMITTED: 00

ENCL: 00

SUB CODE: EE, IE

NO REF SOV: 002

OTHER: 000

OC

Card 2/2

0043

L 20887-66 EWT(1)/ESS-2/ETC(f)/EWG(m) AT
ACC NR: AP6002524 SOURCE CODE: UR/0286/65/000/023/0031/0032

AUTHORS: Shikhin, A. Ya.; Danil'chenko, V. P.; Sil'venskiy, I. V. 40
ORG: none B

TITLE: Direct current source for feeding a permeameter. Class 21, No. 176629
SOURCE: Byulleten' izobreteniij i tovarnykh znakov, no. 23, 1965, 31-32

TOPIC TAGS: permeameter, permanent magnet, testing device, test equipment, test method, automation

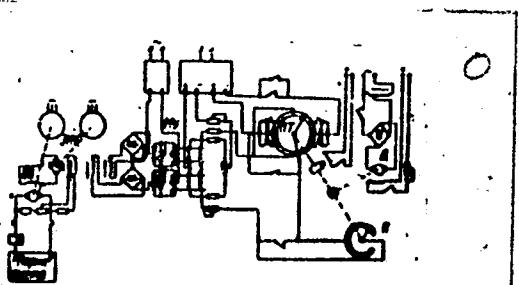
ABSTRACT: This Author Certificate presents a direct current source for feeding a permeameter used for testing permanent materials. The unit is designed to automate the testing process, and contains a direct current generator. The excitation winding of this DC generator is fed from an amplidyne with a fixed negative feedback of the generator voltage (see Fig. 1). The unit also contains a master circular potentiometer with a drive from a nonreversible electric motor with a regulated speed for the purpose of changing the shape and frequency of the test voltage. The unit has a circular rheostat with a sliding contact drive from the nonreversible motor. A push-pull magnetic amplifier provides synchronization

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L 20887-66

ACO NR: AP6002524

Fig. 1. Γ - direct current generator;
OB - generator excitation winding;
3MY - ampidyne; JTT - master
circular potentiometer;
 M - nonreversible electric motor;
R - circular rheostat;
MY - magnetic amplifier.



of the input of the ampidyne with the output of the master circular potentiometer. A step scanner is used to insure the specified test program. Orig. art. has: 1 figure.

SUB CODE: 14, 09/ SUBM DATE: 08Apr64

Card 2/2 ULR

S/081/61/000/021/032/094
B101/B147

AUTHORS: Kosmach, V. V., Danil'chenko, V. R., Dudko, A. N.

TITLE: Automatic sampler for cement

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 21, 1961, 251, abstract
21184 (Tsement, no. 1, 1961, 27 - 28)

TEXT: An automatic apparatus for taking cement samples from the mill was installed at the zementnyy zavod "Oktyabr'" ("Oktyabr'" Cement Plant). It has a master clock giving every five minutes a pulse for switching on the slave (S). The latter pushes the sampler into the mill flow, holds it there for 5 sec to be filled with material, withdraws it, and fills the sample into a special small bin. The S used is the column of the кдү (KDU) remote-control apparatus of the electronic control of the БТИ(VTI) system. It is pointed out that this unit may be also used for taking samples of other powdered materials. [Abstracter's note: Complete translation.] ✓

Card 1/1